REMARKS/ARGUMENTS

Claims 1-7 and 9-17 are pending herein.

The Applicants acknowledge the indication that claims 1-3, 7, 11-13 and 15-17 are allowed.

Claims 4-6, 9, 10 and 14 were rejected under 35 U.S.C. 103(a) over U.S. Patent No. 6,609,092 (Ghitza '092) in view of U.S. Patent No. 6,446,038 (Bayya '038).

Ghitza (US 6,609,092) describes two phases of a speech quality prediction process. Phase I is the training phase and Phase II is the evaluation phase.

In the present application, Phase I is referred to as training a quality assessment tool. Methods and apparatus for training a quality assessment tool are claimed in claims 1-3, 7, 11-13 and 15-17 which, as noted above, have been allowed by the U.S. PTO.

In the present application, Phase II is referred to as assessing speech quality. Methods and apparatus for assessing speech quality are claimed in claims 4-6, 9, 10 and 14 which, as noted above, have been rejected by the U.S. PTO in view of Ghitza and Bayya.

The U.S. PTO is respectfully requested to reconsider this rejection in light of the following comments and amendments which have been made to claims 4 and 9.

The Office Action contains an assertion that item 114 and related text disclose determining a dominant distortion type for a sample. However, in Figure 1, Phase I is illustrated on the right of the Figure and Phase II is illustrated on the left of the Figure. Item 114 is relevant only to Phase I (the training phase) and is not in fact used in Phase II (the evaluation phase). Claims 4-6, 9, 10 and 14 are directed to the evolution phase only.

Item 114 is a MNRU (Modulated Noise Reference Unit) generation operation which is used during the training phase (Phase I) to introduce controlled degradations into the speech signals in accordance with ITU-T Recommendation P.810. The following is a quote from that recommendation:

> This Recommendation describes the Modulated Noise Reference Unit (MNRU), a standalone unit for introducing controlled degradations to speech signals. As such, the MNRU has been used extensively in subjective performance evaluations of digital processes, both in conventional telephone bandwidth and in wideband (e.g. 70-7000 Hz) applications.

Item 114 is NOT relevant to determination of a dominant distortion type; rather, item 114 introduces distortion for training purposes.

The Office Action contains an assertion that item 118 and related text disclose generating a quality measure in dependence upon the distortion specific quality measure. However, item 118 is in fact again part of the training phase. Item 118 is the regression analysis which compares the results of an objective test to the results of a subjective test in order to provide a distortion- MOS map. The distortion to MOS map 128 (of which there is only one in Ghitza) is the output of the training Phase I.

Claims 4-6, 9, 10 and 14 are directed to assessment of speech quality, which is illustrated on the left hand side of Figure 1 of Ghitza.

In Phase II of Ghitza (the evaluation or assessment phase), an objective distortion measure is produced by item 126 and this is fed into the previously trained distortion to MOS map 128 in order to produce an estimated MOS.

The inventors of the present application realized that one problem with such a known system is that a combination of a single set of parameters (as produced by the objective distortion measurement 126) for all samples is not effective for providing an accurate prediction when there are many different types of distortion which can occur. The inventors discovered that for most samples, a particular type of distortion predominates – for example, low signal to noise ratio, parts of the signal are missing, coding distortions, abnormal noise characteristics, or acoustic distortions are present.

Amendments have been made to claims 4 and 9 to more clearly claim the intended invention, i.e., that during the assessment phase, an identified dominant distortion type is selected from a plurality of possible distortion types; a selected distortion specific assessment handler is used in dependence upon the identified dominant distortion type, the distortion specific assessment handler being selected from a plurality of distortion specific assessment handlers, where each of said plurality

of distortion specific assessment handlers is associated with a respective one of said plurality of possible distortion types, and the selected distortion specific assessment handler is used to combine a plurality of parameters specific to said identified dominant distortion type to provide a distortion specific quality measure for the sample.

Support for these amendments may be found on page 12 lines 2-8 and page 13 lines 16-21 of the application as filed.

It is believed that Bayya does not overcome the above-mentioned shortcomings of Ghitza, as attempted to be applied against claims 4 (from which claims 5 and 6 depend) and claim 9 (from which claim 10 depends).

Accordingly, it is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

It is therefore believed that these claims are in order for acceptance.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

July 30, 2008
Date

Kevin C. Brown
Reg. No. 32,402

KCB:jms

BURR & BROWN
P.O. Box 7068
Syracuse, NY 13261-7068

Customer No.: 025191
Telephone: (315) 233-8300
Facsimile: (315) 233-8320